GIS analysis (bacterial transformation approach)
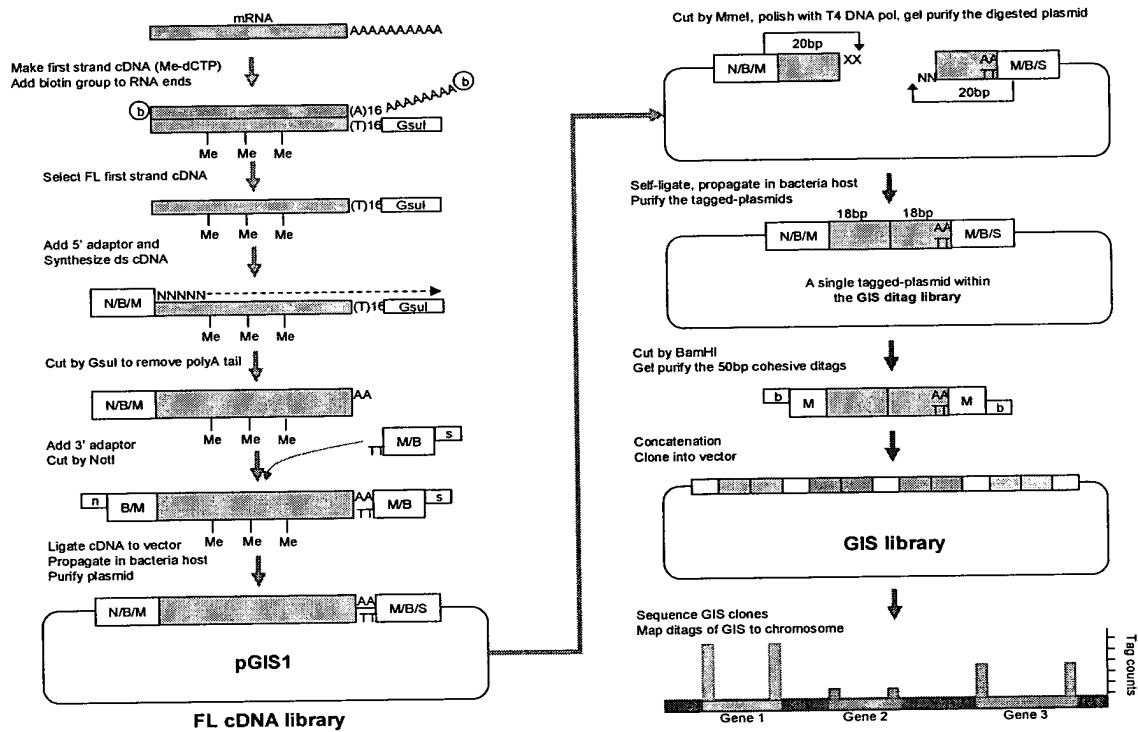
Figure 1

GIS analysis (PCR approach)
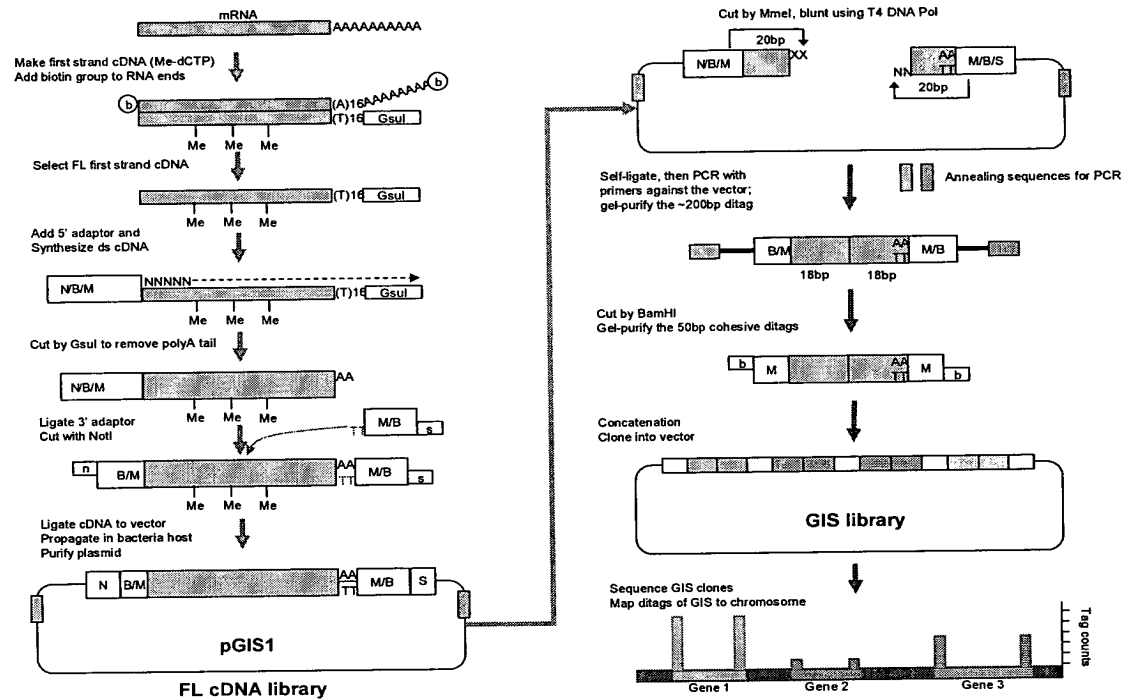
Figure 2
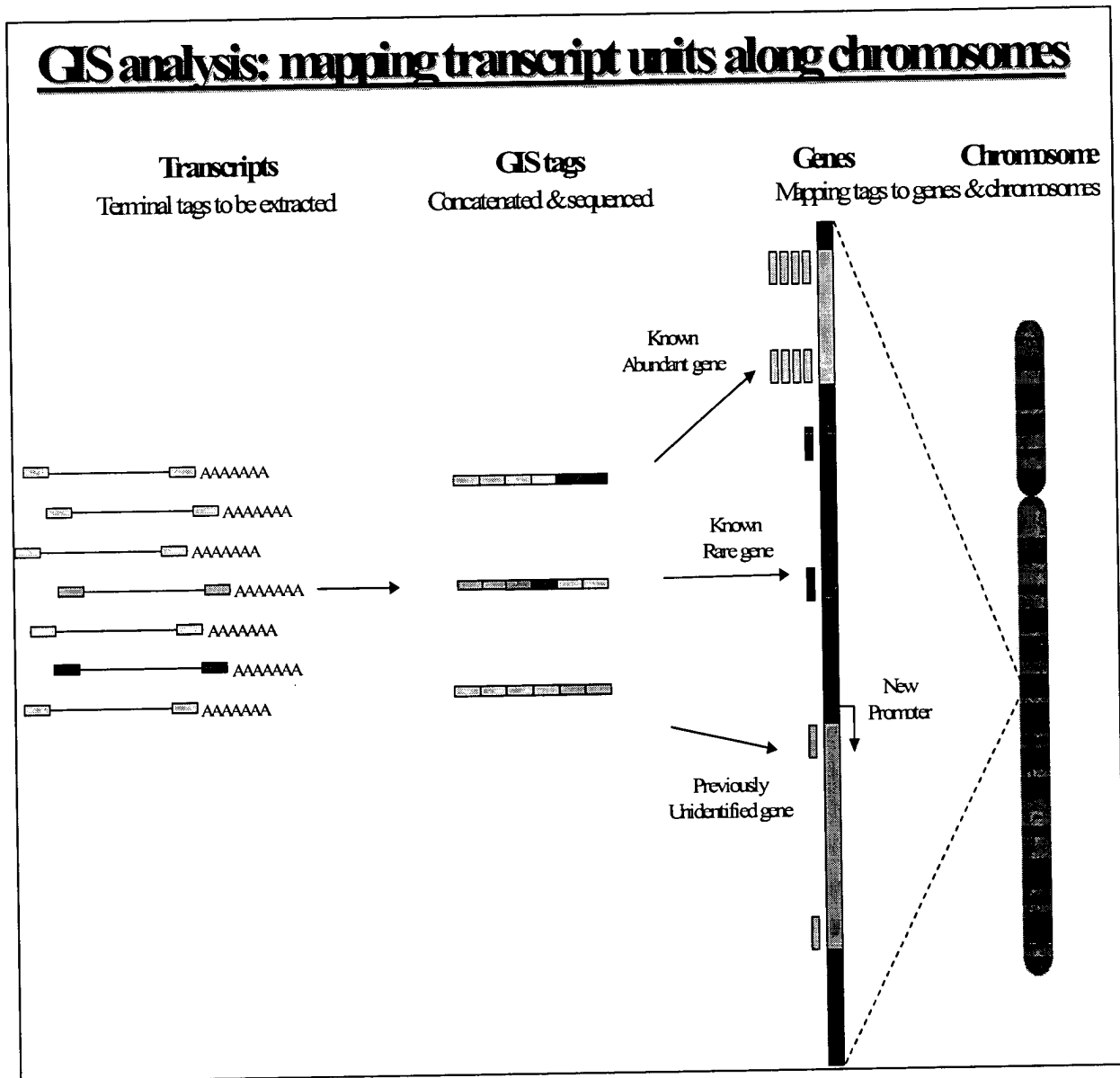
Figure 3

Figure 4

Figure 5

1   2   3   4   5   6   7   8   9   10   11   12   13   14   15

100bp

75bp

50bp

25bp

89bp 3'- adapter arm

63bp 5'- adapter arm

50bp ditag
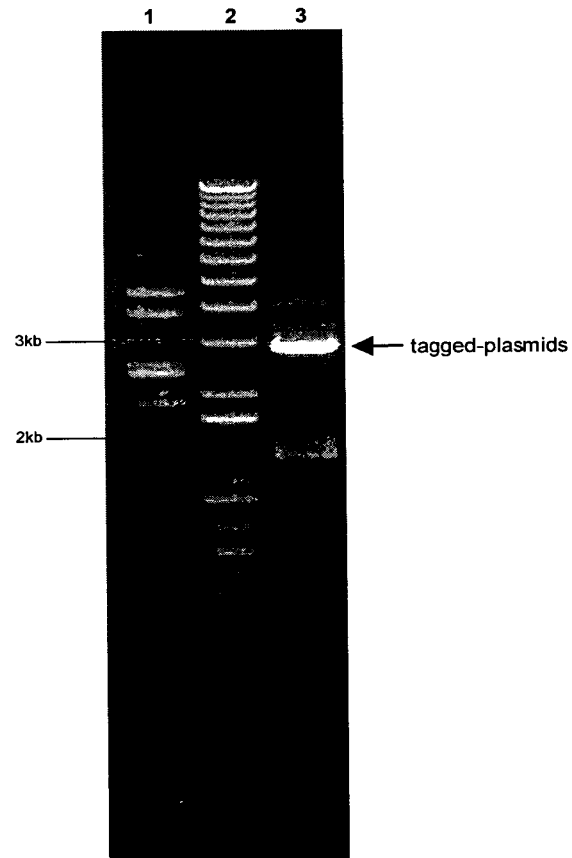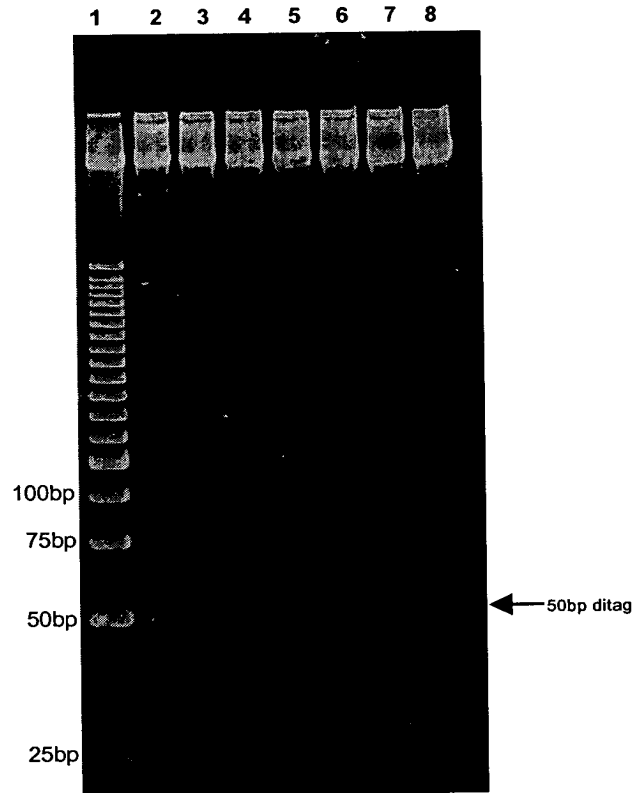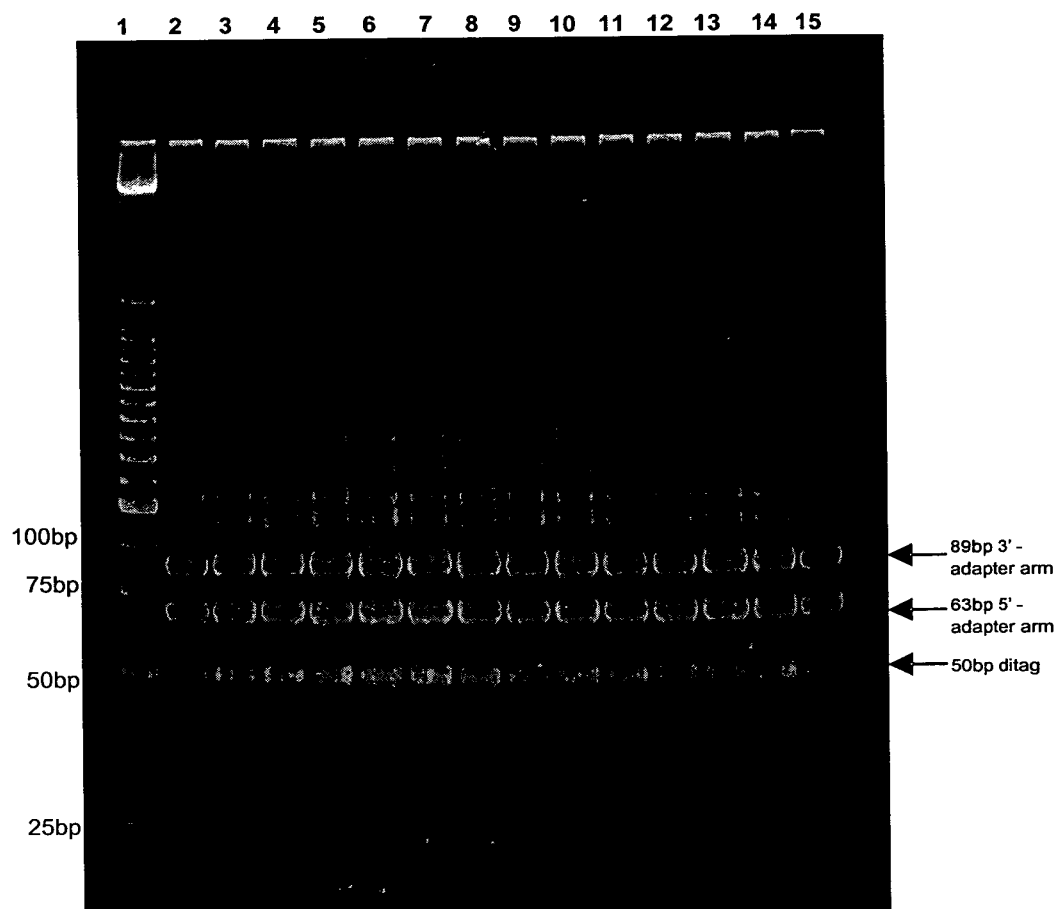
Figure 6

pGIS1

Figure 7

pZErO-1
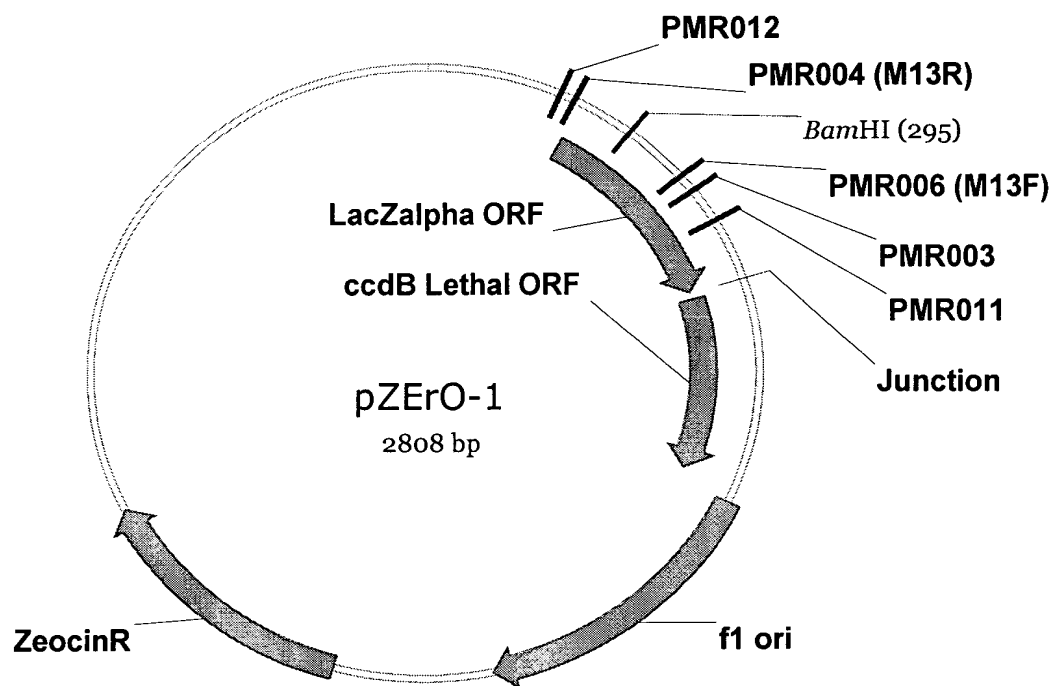
Figure 8
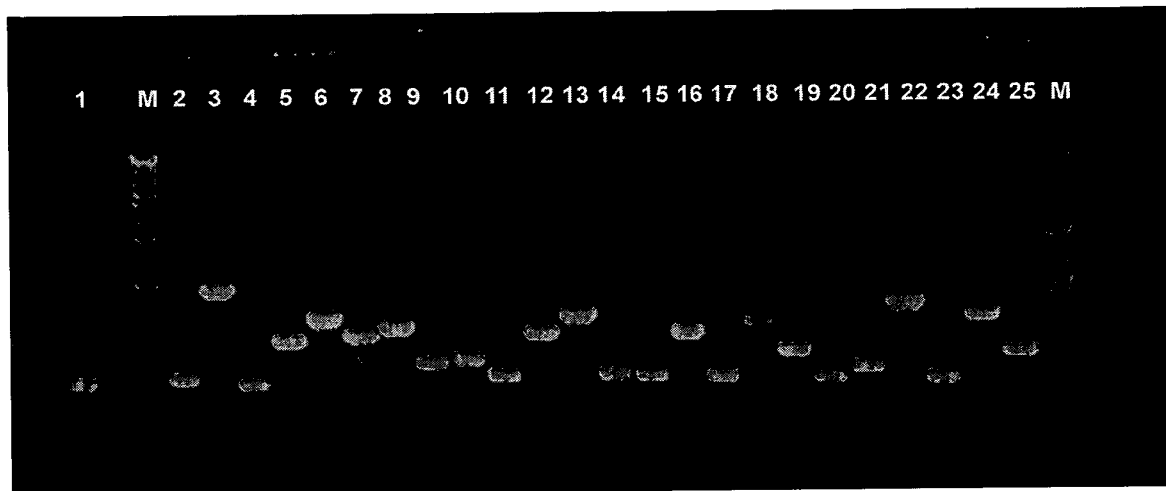
Figure 9

FIGURE 10
pGIS1 sequence

```
                               NotI
                             ---------
              XhoI              MmeI
             -------           -------
      EcoRI              BamHI
      ------             ------
  1   GGGCGAATTC TCGAGCGGCC GCGGATCCGA CGAGAGCGCC TGCGTACGGC TCGCCGCGGT GGCTGGCGCT ACTTCGGAGG AGCCCGACGC GGCGCGGTCG
      CCCGCTTAAG AGCTCGCCGG CGCCTAGGCT GCTCTCGCGG ACGCATGCCG AGCGGCGCCA CCGACCGCGA TGAAGCCTCC TCGGGCTGCG CCGCGCCAGC

 101  TTTTTATACA TTCCCGCGCG GAGGCAACGG AAGGGCGGGG CGCCTCGTGA TTAGGCCGCG GAGGTCACAG GCTCTGTTGT CATGAAGGTG AAAATTAAAT
      AAAAATATGT AAGGGCGCGC CTCCGTTGCC TTCCCGCCCC GCGGAGCACT AATCCGGCGC CTCCAGTGTC CGAGACAACA GTACTTCCAC TTTTAATTTA
      MmeI
      ------
 201  GTTGGAATGG TGTGGCCACT TGGCTCTGGG TAGCCAATGA TGAGAACTGC GGCATCTGCA GGATGGCGTT TAATGGCTGC TGTCCAGACT GTAAGGTGCC
      CAACCTTACC ACACCGGTGA ACCGAGACCC ATCGGTTACT ACTCTTGACG CCGTAGACGT CCTACCGCAA ATTACCGACG ACAGGTCTGA CATTCCACGG

 301  TGGTGATGAC TGCCCCCTCG TGTGGGGACA GTGCTCCCAC TGCTTCCACA TGCACTGCAT CCTCAAGTGG CTGAATGCGC AGCAGGTGCA GCAGCACTGC
      ACCACTACTG ACGGGGGAGC ACACCCCTGT CACGAGGGTG ACGAAGGTGT ACGTGACGTA GGAGTTCACC GACTTACGCG TCGTCCACGT CGTCGTGACG

 401  CCCATGTGTC GCCAGGAGTG GAAGTTCAAA GAGTGAAGCC CGTGCCGTGC CACTTCCCTC TCCTGTGCTG TGCCAGGCTC AGCCCCTTCC CTCCCTCCCC
      GGGTACACAG CGGTCCTCAC CTTCAAGTTT CTCACTTCGG GCACGGCACG GTGAAGGGAG AGGACACGAC ACGGTCCGAG TCGGGGAAGG GAGGGAGGGG

 501  TCCCCCAGAT ACAGCACCCC AAGTCCCCTC CACACAGCAC AGTGGTGCCC AGAGATCTCG GTCTGTGCCG GGGACAAGGA TGCTTTCTGT TTGGCTGGGA
      AGGGGGTCTA TGTCGTGGGG TTCAGGGGAG GTGTGTCGTG TCACCACGGG TCTCTAGAGC CAGACACGGC CCCTGTTCCT ACGAAAGACA AACCGACCCT
                                                                                                    MmeI
                                                                                                    -------


                                                                                           BamHI
                                                                                           ------- --
 601  CAAGGTTGAA AGGAGCTTTG CTGACTGTTT TGTTTTCCCA TCACATTGAC ACTTTATTCA ATAAGTAAAA CTCATTACAG TTCCAAGTCG GATCCTGGGT
      GTTCCAACTT TCCTCGAAAC GACTGACAAA ACAAAAGGGT AGTGTAACTG TGAAATAAGT TATTCATTTT GAGTAATGTC AAGGTTCAGC CTAGGACCCA
      SalI
      ----
 701  CGAACTGCAG GCATGCAAGC TTGAGTATTC TATAGTGTCA CCTAAATAGC TTGGCGTAAT CATGGTCATA GCTGTTTCCT GTGTGAAATT GTTATCCGCT
      GCTTGACGTC CGTACGTTCG AACTCATAAG ATATCACAGT GGATTTATCG AACCGCATTA GTACCAGTAT CGACAAAGGA CACACTTTAA CAATAGGCGA

 801  CACAATTCCA CACAACATAC GAGCCGGAAG CATAAAGTGT AAAGCCTGGG GTGCCTAATG AGTGAGCTAA CTCACATTAA TTGCGTTGCG CTCACTGCCC
      GTGTTAAGGT GTGTTGTATG CTCGGCCTTC GTATTTCACA TTTCGGACCC CACGGATTAC TCACTCGATT GAGTGTAATT AACGCAACGC GAGTGACGGG

 901  GCTTTCCAGT CGGGAAACCT GTCGTGCCAG CTGCATTAAT GAATCGGCCA ACGCGCGGGG AGAGGCGGTT TGCGTATTGG GCGCTCTTCC GCTTCCTCGC
      CGAAAGGTCA GCCCTTTGGA CAGCACGGTC GACGTAATTA CTTAGCCGGT TGCGCGCCCC TCTCCGCCAA ACGCATAACC CGCGAGAACG CGAAGGAGCG

1001  TCACTGACTC GCTGCGCTCG GTCGTTCGGC TGCGGCGAGC GGTATCAGCT CACTCAAAGG CGGTAATACG GTTATCCACA GAATCAGGGG ATAACGCAGG
      AGTGACTGAG CGACGCGAGC CAGCAAGCCG ACGCCGCTCG CCATAGTCGA GTGAGTTTCC GCCATTATGC CAATAGGTGT CTTAGTCCCC TATTGCGTCC

1101  AAAGAACATG TGAGCAAAAG GCCAGCAAAA GGCCAGGAAC CGTAAAAAGG CCGCGTTGCT GGCGTTTTTC GATAGGCTCC GCCCCCCTGA CGAGCATCAC
      TTTCTTGTAC ACTCGTTTTC CGGTCGTTTT CCGGTCCTTG GCATTTTTCC GGCGCAACGA CCGCAAAAAG CTATCCGAGG CGGGGGGACT GCTCGTAGTG

1201  AAAAATCGAC GCTCAAGTCA GAGGTGGCGA AACCCGACAG GACTATAAAG ATACCAGGCG TTTCCCCCTG GAAGCTCCCT CGTGCGCTCT CCTGTACCGA
      TTTTTAGCTG CGAGTTCAGT CTCCACCGCT TTGGGCTGTC CTGATATTTC TATGGTCCGC AAAGGGGGAC CTTCGAGGGA GCACGCGAGA GGACATGGCT

1301  CCCTGCCGCT TACCGGATAC CTGTCCGCCT TTCTCCCTTC GGGAAGCGTG GCGCTTTCTC ATAGCTCACG CTGTAGGTAT CTCAGTTCGG TGTAGGTCGT
      GGGACGGCGA ATGGCCTATG GACAGGCGGA AAGAGGGAAG CCCTTCGCAC CGCGAAAGAG TATCGAGTGC GACATCCATA GAGTCAAGCC ACATCCAGCA

1401  TCGCTCCAAG CTGGGCTGTG TGCACGAACC CCCCGTTCAG CCCGACCGCT GCGCCTTATC CGGTAACTAT CGTCTTGAGA CCAACCCGGT AAGACACGAC
      AGCGAGGTTC GACCCGACAC ACGTGCTTGG GGGGCAAGTC GGGCTGGCGA CGCGGAATAG GCCATTGATA GCAGAACTGT GGTTGGGCCA TTCTGTGCTG

1501  TTATCGCCAC TGGCAGCAGC CACTGGTAAC AGGATTAGCA GAGCGAGGTA TGTAGGCGGT GCTACAGAGT TCTTGAAGTG GTGGCCTAAC TACGGCTACA
      AATAGCGGTG ACCGTCGTCG GTGACCATTG TCCTAATCGT CTCGCTCCAT ACATCCGCCA CGATGTCTCA AGAACTTCAC CACCGGATTG ATGCCGATGT

1601  CTAGAAGGAC AGTATTTGGT ATCTGCGCTC TGCTGAAGCC AGTTACCTTC GGAAAAAGAG TTGGTAGCTC TTGATCCGGC AAACAAACCA CCGCTGGTAG
      GATCTTCCTG TCATAAACCA TAGACGCGAG ACGACTTCGG TCAATGGAAG CCTTTTTCTC AACCATCGAG AACTAGGCCG TTTGTTTGGT GGCGACCATC

1701  CGGTGGTTTT TTTGTTTGCA AGCAGCAGAT TACGCGCAGA AAAAAAGGAT CTCAAGAAGA TCCTTTGATC TTTTCTACGG GGTCTGACGC TCAGTGGAAC
      GCCACCAAAA AAACAAACGT TCGTCGTCTA ATGCGCGTCT TTTTTTCCTA GAGTTCTTCT AGGAAACTAG AAAAGATGCC CCAGACTGCG AGTCACCTTG

1801  GAAAACTCAC GTTAAGGGAT TTTGGTCATG AGATTATCAA AAAGGATCTT CACCTAGATC CTTTTAAATT AAAAATGAAG TTTTAAATCA ATCTAAAGTA
      CTTTTGAGTG CAATTCCCTA AAACCAGTAC TCTAATAGTT TTTCCTAGAA GTGGATCTAG GAAAATTTAA TTTTTACTTC AAATTTTAGT TAGATTTCAT

1901  TATATGAGTA AACTTGGTCT GACAGTTACC AATGCTTAAT CAGTGAGGCA CCTATCTCAG CGATCTGTCT ATTTCGTTCA TCCATAGTTG CCTGACTCCC
      ATATACTCAT TTGAACCAGA CTGTCAATGG TTACGAATTA GTCACTCCGT GGATAGAGTC GCTAGACAGA TAAAGCAAGT AGGTATCAAC GGACTGAGGG

2001  CGTCGTGTAG ATAACTACGA TACGGGAGGG CTTACCATCT GGCCCCAGTG CTGCAATGAT ACCGCGAGAC CCACGCTCAC CGGCTCCAGA TTTATCAGCA
      GCAGCACATC TATTGATGCT ATGCCCTCCC GAATGGTAGA CCGGGGTCAC GACGTTACTA TGGCGCTCTG GGTGCGAGTG GCCGAGGTCT AAATAGTCGT

2101  ATAAACCAGC CAGCCGGAAG GGCCGAGCGC AGAAGTGGTC CTGCAACTTT ATCCGCCTCC ATCCAGTCTA TTAATTGTTG CCGGGAAGCT AGAGTAAGTA
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2201  GTTCGCCAGT TAATAGTTTG CGCAACGTTG TTGGCATTGC TACAGGCATC GTGGTGTCAC GCTCGTCGTT TGGTATGGCT TCATTCAGCT CCGGTTCCCA
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2301  ACGATCAAGG CGAGTTACAT GATCCCCCAT GTTGTGCAAA AAAGCGGTTA GCTCCTTCGG TCCTCCGATC GTTGTCAGAA GTAAGTTGGC CGCAGTGTTA
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2401  TCACTCATGG TTATGGCAGC ACTGCATAAT TCTCTTACTG TCATGCCATC CGTAAGATGC TTTTCTGTGA CTGGTGAGTA CTCAACCAAG TCATTCTGAG
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2501  AATAGTGTAT GCGGCGACCG AGTTGCTCTT GCCCGGCGTC AATACGGGAT AATACCGCGC CACATAGCAG AACTTTAAAA GTGCTCATCA TTGGAAAACG
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2601  TTCTTCGGGG CGAAAACTCT CAAGGATCTT ACCGCTGTTG AGATCCAGTT CGATGTAACC CACTCGTGCA CCCAACTGAT CTTCAGCATC TTTTACTTTC
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2701  ACCAGCGTTT CTGGGTGAGC AAAAACAGGA AGGCAAAATG CCGCAAAAAA GGGAATAAGG GCGACACGGA AATGTTGAAT ACTCATACTC TTCCTTTTTC
      TGGTCGCAAA GACCCACTCG TTTTTGTCCT TCCGTTTTAC GGCGTTTTTT CCCTTATTCC CGCTGTGCCT TTACAACTTA TGAGTATGAG AAGGAAAAAG

2801  AATATTATTG AAGCATTTAT CAGGGTTATT GTCTCATGAG CGGATACATA TTTGAATGTA TTTAGAAAAA TAAACAAATA GGGGTTCCGC GCACATTTCC
      TTATAATAAC TTCGTAAATA GTCCCAATAA CAGAGTACTC GCCTATGTAT AAACTTACAT AAATCTTTTT ATTTGTTTAT CCCCAAGGCG CGTGTAAAGG

2901  CCGAAAAGTG CCACCTGACG TCTAAGAAAC CATTATTATC ATGACATTAA CCTATAAAAA TAGGCGTATC ACGAGGCCCT TTCGTCTCGC GCGTTTCGGT
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3001  GATGACGGTG AAAACCTCTG ACACATGCAG CTCCCGGAGA CGGTCACAGC TTGTCTGTAA GCGGATGCCG GGAGCAGACA AGCCCGTCAG GGCGCGTCAG
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3101  CGGGTGTTGG CGGGTGTCGG GGCTGGCTTA ACTATGCGGC ATCAGAGCAG ATTGTACTGA GAGTGCACCA TATGCGGTGT GAAATACCGC ACAGATGCGT
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3201  AAGGAGAAAA TACCGCATCA GGCGCCATTC GCCATTCAGG CTGCGCAACT GTTGGGAAGG GCGATCGGTG CGGGCCTCTT CGCTATTACG CCAGCTGGCG
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3301  AAAGGGGGAT GTGCTGCAAG GCGATTAAGT TGGGTAACGC CAGGGTTTTC CCAGTCACGA CGTTGTAAAA CGACGGCCAG TGAATTGTAA TACGACTCAC
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3401  TATA
      ATAT
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